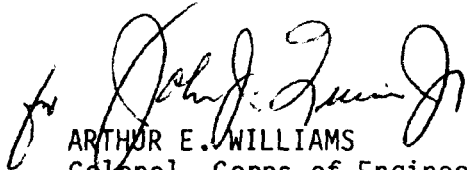


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Engineering and Design
SEEPAGE ANALYSIS AND CONTROL FOR DAMS

1. Purpose. This manual presents the fundamental design principles and guidance concerning seepage considerations for design of new dams and the evaluation of existing projects.
2. Applicability. This manual is applicable to all HQUSACE/OCE elements and field operating activities having responsibility for the design and construction of civil works projects.
3. Discussion. All earth and rock-fill dams are subject to seepage through the embankment, foundation, and abutments. Concrete gravity and arch dams are subject to seepage through the foundation and abutments. Seepage control is necessary to prevent excessive uplift pressures, sloughing of the downstream slope, piping through the embankment and foundation, and erosion of material by loss into open joints in the foundation and abutments. The purpose of the project, i.e., long-term storage, flood control, etc., may impose limitations on the allowable quantity of seepage.

FOR THE COMMANDER:


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